THERE ELECTIVE COLUMN OUTOBER IS INC. THEFT MINE

the raiment you wear. For your own sake and that of your friends

DO NOT MARRY A LAZY MAN,
and who has no property. A man without property and business will never render you happy. But if he be without property and industrious you have a guarantee that, with the smile of Providence upon his exertions, you will never come to want.

DO NOT MARRY A MAN OF UNEVEN TEMPER.
There is nothing with which domestic enjoyment is more intimately connected than good temper and he affectionate disposition. The absence of a sweet disposition will render you in no small degree unhappy. Better some in contact with a cross bear whan associate yourself with such a monster as a man of violent temper.

DO NOT MARRY A SKEPTIO in his principles or without a religion, for with every other qualification you may desire it would be infatuation for you to become his wife.

DO NOT MARRY A GAMBLER.
How can you consent? Think of his associations. How many a daughter reared in a mother's similes and surrounded by all that can bless becomes and one watcher lost to happiness, while the hasband is spending his and her wealth in some gambling asloon or at billiards! The preacher concluded by warning young ladies sigainst marrying a tippler, for the young man who has taken his first glass has entered the highway of ruin and opened his soul to the destroyer.

SERVICES IN WASHINGTON.

METROPOLITAN METHODIST CHURCH.

Dr. Newman's Sermon on the Grandeur of Moses' Prayer—The Mysterious Invisibility of God-Where is God t-Ged's Presence Tangibly Manifested, and His Method of

WASHINGTON, Oct. 9, 1870. The Metropolitan church was well filled yesterday.
Seneral Grant and family were present. Yesterday
was the first time the President's pew has been
filled for many weeks. Dr. Newman took his text

"I beseach Thee show me Thy glory."

"I beseech Thee show me Thy glory."

GRANDEUR OF MOSES' PETITION.

Such a prayer was never before uttered by mortal nan. It is grander than the intercession of Abraham for Sodom. It is bolder than the persistent demand of Jacob to know the angels named. It is mightier than the prayer of the disciples for the deliverance of Peter. It is a petition to see God face to face; for so the term "glory" must be understood in this

of Peter. It is a petition to see God face to face; for so the term "glory" must be understood in this passage. Experience had given inspiration to Moses which enabled him to approach so near the throne and to make this remarkable request. Faith is like the ladder that Jacob saw. We mount up, round after round, until we stand on the threshold of heaven and are permitted to behold the King in his beauty. The prayer of Moses is expressive of the feelings of every human heart. The invisibility of God is one of the profound mysteries of our religion. No intelligent mind can fully doubt his existence. The proofs are too abundant and convincing. His wisdom, his power, his goodness are made to appear in the heavens and upon the earth. Yet the anxious question from every intelligent mind and every human heart is MHERE IS GOD?

I am sorrounded with his omnipresence, yet I cannot see Him. He is as near to me as I am to myself, and yet he is surrounded with impervious darkness or light inaccessible. We can think of Him, love Him, hold converse with Him in prayer, and fill with delight in contemplating his glory; but where he He? We cannot doubt the existence of the Divine. Being, neither can we doubt His personal presence. It is not possible for us to conceive that a Being of such attributes, capable of such manifestations in His works of nature, providence and grace, should be without a personal presence. Somewhere in the vast universe He must be tangibly manifested. Christ said to His diciples, "I say nuto you that in heaven the angels do always behold the face of my Father which is in heaven." St. Stephen, the problemarry of Persidia, cried out, "Benoid! see the heavens open and the Son of Man and the Son of God standing at the right hand of God." In the Gorden of Kden He met our first parents in the time of their innocence he was to them father and friend. They beard His volce as He waiked in the Garden in the cool of day. He appeared again to hold an induced over the body of the nurdered Abel, and when Amis ever sinc

The invisibility of God does not necessarily grow out of His attributes or of man's inability to see, but it us a part of the curse that fell upon the race in consequence of the original transgression, and this may be intered from three facts.—First, that His may be intered from three facts.—First, that His may be inferred from three facts.—First, that His invisibility is a calamity that impresses every human heart—a calamity that can hardly be measured. Secondly, the Scriptures expressly declare that God has hid Himself because of sm; and, thirdly, hell will consist in the absence of God. Paul says, "The wicked shall be punished with evertasting destruction from the presence of God and the glory of His power." To be m God's universe, conscious of existence and yet forever withdrawn from His presence, must constitute hell.

on the other hand, heaven is represented as existing in the presence of God. But what is the provision God has made to meet this great human wam? Since He left Eden He has revealed Himself in three ways:—First, by assumed forms—assuming the form of a man and appearing to Abraham, and assuming the form of an angel and appearing to Jacob. He was manifested again in glorious symbols, as in the rainbow to Noah; the piliar of fire to the Israelites; and atterwards in the saekinah, which was a brightness, a cloud of luminosity which descended upon the tabernacle. The third manifestation of Jehovah was the most remarkable—the incarnation of the Lord Jesus Christ. markable—the incarnation of the Lord Jesus Christ—the grandest truth in the Bible, from the Pentatuech to the Apocalypse. Around this the soul railies and faith culmnases. God reveals thinself now to us through His Holy Spirit. In His infinite mercy God has not abandoned the world to her orphanage nor mankind to solitude. He will reveal Himself through His Holy Spirit, and we may approach Him and converse with Him through the same means that Moses used, the avenue of prayer; and the evidence of that converse may be as clear to the human intellect as converse held between friend and friend, if we noter this prayer in confidence we shall be answered by His Holy Spirit, and at the last day we shall see the King in His beauty. on of the Lord Je us Christ-

ST. STEPHEN'S ROMAN CATHOLIC CHURCH.

Blessing a Shrine-Eloquent Sermon Father Maguire, on the Adoration of the Virgio and the Antiquity of the Catholic WASHINGTON, Oct. 9, 1870.

A very interesting ceremony, the blessing of a shrine in honor of the Virgin Mother of God, took place to-day at St. Stephen's Roman Catholic Church in this city. The shrine was erected on the right side of the altar, and contained a beautiful marble statuette of the Virgin, crowned with a flora wreath and surrounded with lighted tapers in golden candelabras, shedding a holy radiance upon the figure. The church was densely crowded, and the most exemplary devotion was exhibited by all present. THE BLESSING CEREMONY

commenced about half-past ten o'clock and only lasted about eight minutes. Rev. Father McNally, pastor of the church, officiated. Clothed with magmificent sacerdotal robes and attended by nine aco lytes, he issued from the sacristy, while the organ and chair performed the beautiful hymn of "Salve gina," in tones of purest harmony, that uck upon all ears with an effect that carried

and choir performed the beautiful hymn of "Salve Regina," in tones of purest harmony, that struck upon all ears with an effect that carried the mind heavenward. Father McNaily at the same time offered up an impressive prayer, sprinkling the shrine with holy water and kneeling before it, with the acolytes arranged on either side in devout attitudes. This seemed to constitute the whole ceremony, and at its conclusion the pastor and acolytes withdrew, reappearing in a few moments to celebrate the high mass.

SERMON BY FATHER MAGUIEL.

At the usual part of the mass Rev. Father Maguire, of St. Aloysius Church, ascended the altar and presched an eloquent sermon. He said that all the glory we offer the Virgin redounds to God. She is, in the language of the Church, just like the moon and just as beautiful. The moon shines from the reflected splender of the sun, the Virgin from the splender of the service of the State, and we pay honor to the Virgin because she is the mother of God. If you crect statues in all your public squares, if at every part of the city you have mementoes to men who have done the State some service, where is the Christian who will not feel delighted to honor the mother of his crucined Saviour. To do so is dear to every Catholic heart. If a lover cherishes the picture of some dear one who is absent, or the mother sheds a tear over the relic of her child who is in heaven, where is the idolatry or superstition in cherishing the picture of Him who died upon the cross to save us, or of the Blessed Mother who bore Him to the world, The preacher here reliated an anecdote of one formerly a Presbyterian, now a convert to catholicity. He went from Pittsburg to Oxford to finish his collegiate course. There, after some investigation of Presbyterian tenets of faith, he looked into the Episcopal creed and deemed it higher and nobler. Pursuing his investigations still further, he joined the

acter that it had nothing of the Virgin and child in it; but descend into the Catacombs and there you will find, fiteen hundred years old, these silent monuments of the grand old Cataolic faith. There, in monuments of the grand old Cataolic faith. There, in the so-called purest days of Christianity, the worship of the Virgin Mary is in evidence. The wayward child, continued the speaker, flest to the mother's arms to ask forgiveness of an irritated father. So it is with us. We ask of the mother of God to plead for us, to solicit for us the support, grace and consolation for which we are always in need. She merety saks for her divine Son to give us all graces and blessings. Through God we look for redemption; through Mary we ask for assistance in our cause before the court of Heaven. The son never forgets his mother. From the cross of Calvary He turned in His hour of agony to John and said, "Son, behold thy mother." In the person of John the Church and all her members are typified, and in the midst of all the storms of life we turn and call her by that sweet and affectionate name.

CONVICT INGENUITY.

Singular Developments in Sing Sing Prison-Attempted Escape of Three Notorious Convicts-Hew They Cut Out of Their Cells and Operated a Jackscrew at Midnight-Dexterity Under Difficulties.

An extraordinary and daring attempt on the part of three convicts to force their way out of Sing Sing prison a night or two ago, was, fortunately for the welfare of the community at large, discovered and frustrated at the eleventh hour, and when the three desperadoes had already imagined themselves beyond the restrictions of bolts and bars. Perhaps a etter laid plan to escape, or a more carefully prosecuted scheme, in all its practical details (including the secret manufacture of iron and steel tools), never testified more fully to the inexhaustible resources of convict ingenuity.
When it is considered that a convict is seldom, if ever, from under the eyes of his keeper, and that despite this incessant surveillance he can secretly forge an elaborate and powerful jackscrew, which, only handled at intervals of oftentimes momentary duration, must require weeks, or perhaps months to complete, the dexterity and cumping of those terrors of society will be partially comprehended. But to the story. Shortly after eleven o'clock on the night in question, and when the

THIRTEEN HUNDRED CRIMINALS in their contracted cells were supposed to be oblivi-ous of their present disgrace while dreaming, per-haps, of early opportunities lost and days spent in youthful innocence, one of the night guards, while going his usual hourly rounds through the numerous corridors of the prison, was surprised to find, on the third tier of galleries, the doors of two cells open and the occupants gone. As it was known to the guard that one of these cells had contained two convicts he at once consulted the principal keeper as to whether the three men had been transferred to the hospital within the preceding hour, and on receiving a negative reply it was laminediately concluded that

receiving a negative reply it was immediately concluded that

THE MISSING CONVICTS

were concealed somewhere in the main building. Accordingly each gallery was searched until the sixth, or upper tier, was reached, where, at the south wall of the prison and near the roof, the industrious trio were discovered manipulating successfully with a jackscrew on the grating of a window, the Iron bar of which, measuring nearly two inches in diameter, had already been forced several inches from its perpendicular position, making an aperture almost sufficiently large to admit the body of a man. On seeing that their cherished scheme for the attainment of liberty was folled even while already breathing the air of freedom, the now thoroughly alarmed convicts cowered before the officers and

dom, the now thoroughly alarmed convicts cowered before the officers and BEGGED FOR THEIR LIVES.

After the would-be prison breakers were locked up in doubly secure quarters, it was found that two of the men who had been occupying one cell—namely. John Murray, who is serving a term of ten years for highway robbery, and Joseph McGowan, a burglar, sentenced for a similar period, had first out their way out of the cell and then opened an adjoining one letting out a contederate named Oharles Carr, who has been assigned to five years' State servitude for attempted robbery. With loois made for the purpose the two former had drilled holes in the sheet iron over the lock in their cell door and then, with other interfect of the made for the purpose the two former had drilled holes in the sheet iron over the lock in their cell door and then, with other interfect dimensions to admit of unlocking the door from the outside; all this being done during the temporary absence of the guard, who hourly walked past the scene of operations. The massive bolts yielded without difficulty to the pressure of a skeleton key, formed almost wholly from a piece of ordinary gaspipe, and giving evidence of consummate skill on the part of the maker. This and the jackscrew are believed to have been manufactured by a Notorious surgglar, whose term of sentence expired a short time since.

sorew are believed to have been manufactured by A NOTORIOUS BURGLAR, whose term of sentence expired a short time since. Had the convicts above named succeeded in fercing the window grating they would have had to descend over fifty feet before reaching the roof of an adjoining house. For this emergency, however, they were fully prepared with a rope of the required length made up of short pieces which they had sooned and secreted from time to time in anticipatof their bold attempt to evade the consequences of evil doing. McGowan has served only six months of his term, Murray twelve and Carr two months. That the two last named convicts are old in crime may be inferred from the fact that they both have already served a term of imprisonment at Sing Sing, this being their second visit to that institution.

The Misfortunes that Befel a New Jersey Benedict. In regard to the troubles of a certain leather dealer

of Elizabeth, N. J., named Frederick Hazel, the say ing that "it never rains but it pours" is peculiarly applicable. About a year ago his factory in Spring street, near the river, was destroyed by fire. It was heavily insured, but the insurance men not only declined making good his losses but actually charged that he himself was directly responsible for the fire. Subsequently he was arrested on a charge of stealing, preferred by one Mr. Fox. At the last term of court he was tried, found guilty and sentenced to pay a fine of fifty dollars and costs. The latter, with the fine, reached the figure of \$121.20. In default of this he was committed to fall. Meantime the jall committee of the Board of Chosen Freeholders met and remitted his costs. He paid the fine and was liberated. On reaching home his reception by his wife was exceedingly singular; she was greatly surprised at his being at large, and seemed anything but pleased. On a plea of poverty she prevailed on him to go to New York and procure some money. He did so, and came back yesterday with \$125, but found his wife had "gone where the woodbine twineth," probably in the direction of Middletown, N. Y. When last seen she was leaning tovingly on her "cousin's" arm at the Elizabeth Railway depot. The occurrence has caused as much of a sensation as another afaire de caur, in which a certain Mr. Jones, a furniture dealer, figured a few weeks age. The latter venerable hombre, after being expelled from the Broad street Baptist church for his numerous gallantries among certain ladies of the congregation, followed by a long absence from home, has returned. This, too, causes a flutter. ing, preferred by one Mr. Fox. At the last term of

COLORED RELIEF SOCIETY.

Before we introduce "heathen Chinese" into our houses it would be well to find employment for all our native born domestic servants. For several months a society has been in operation to enable amilies in New York to avail themselves of the almost countless poor celered girls in the South, who would gladly come to the North. Although as yet it has proceeded very cautiously in its operations, and has satisfied itself with a small room on the upper story of the Bible House for its headquarters, it has already done a great deal of good, thanks to the energy which has characterized its management. No less than 200 girls have, since the 5th Junc, been brought from Maryland and Virginia and furnished with employment at good wages in respectable homes, where they receive kindly treatment, and perhaps also, when eccasion requires, a little seasonable advice. Applications for servants are still constantly being received, and each week a cargo of "fresh hands" are brought up from the South. All applicants are required to deposit twelve dollars for the expenses of hiring and transporting the girls, and for this sum the latter work a month gratuitously. After that an arrangement as to wages is made between the parties, according from eight to twenty dollars a month. Should the girl misbehave herself the society pledges itself to find a satisfactory substitute. Only one complaint has, however, yet been received. very cautiously in its operations, and has satisfied

ATTORNEY GENERAL ARREMAN IN BUFFALO.—The fact that United States Attorney General Arreman has been spending a few days in this city with his old college friend, E. C. Sprague, was mentioned yesterday by the Courier. It is preper we should say that Mr. Areman's presence in the city was not made knewn on his arrival because the state of his health forbade his indulgence in any social courtesies. He is still sunfering from the effects of a severe attack of billous fewer, which prostrated him last month in Georgia, and he sought a few days of retirement here in the hospitable mansion of his friend for the purpose of quiet rest and to regain strength enough for a return to his duties at Washington. We are glad to say that the privacy and rest that he has secured has been of great benefit to him, and that he will leave Buffalo to-day, returning to Washington much improved in health.—Buffalo Express, Oct. 7.

OUR DOCKS AND PIERS.

Facts and Data Connected with the Harbor of New York.

The Old Wooden Piers and How They are Occupied.

Estimates of Population and Commerce,

munician THE PLAN OF IMPROVEMENT

Stone Piers and Bulkheads, Widening of the Exterior Street and an Elevated Railway.

PROPOSED DRAINAGE SYSTEM.

The Markets to be Sent Up Town.

The Canal Trade to be Located on the Harlem River.

Report of General Viele to the Commissioners of the Department of Docks.

nitting the accompanying plans, specifica tions and estimates for a new system of wharves, piers, docks, busins and sups, solicited by your Board in accordance with the provisions of section 33, chapter 383, of the laws of 1870, it is proper that I should enumerate in detail the considerations and principles upon which they are based.

It is required that the proposed system shall ac-commodate the present commerce of the city and harbor and shall provide for the future expansion thereof, and for the facilitation of the transportation of freight along the water front, so as to render the whole water front of the city available to the com-

It is further required that the plans "shall centain provision for the special accommodation of steamers and vessels engaged in foreign trade, in domestic trade, in the coal trade, in the trade in lumber and building materials, in the hay and grain trace, in furnishing market supplies; also for the accommodation of steamboats plying to places on the Hudson river and Long Island Sound, for the canal boats arriving in this city, and for the railroads and other commercial interests,"
In discussing these very comprehensive require

ments and determining upon a plan that shall fulfil the several conditions specified, it becomes ne-

cessary—

First—To determine with care and accuracy the hydrographical status of the harbor, in order to avoid any artificial constructions which shall derange or impair the natural conditions which have fixed its present character.

Second—To ascertain the nature and extent of the avoid hydrographics of commercial traffic using wharf

several branches of commercial traffic using v facilities and the present character of those

facilities and the present character of those constructions.

Third—To estimate, from such data as time and experience have supplied, the elements of progress which are incidental to the city of New York by virtue of its geographical position, its minnd communications and its present stanupoint as the commercial metropolis of the country.

Fourth—To determine the location, extent and character of such artificial and permanent constructions as are requisite to supply the place of those in present use and afford the increased facilities required. First,

THE HARBOR OF NEW YORK.

The harbor of New York consists of the harbor proper and an outer roadstead called the Lower Bay, the latter being partially protected from the sea by the peninsula of Sandy Hook, which stretches out from the coast of New Jersey in a northerly direction, about six miles in length and three quarters of a mile wide. The main channel from the sea into the Lower Bay passes near the extremity of Sandy Hook, between which and the coast of Long Island (a distance of seven miles) is an immense shoal, through which pass three lesser channels to the sea. The bar to the entrance lies three miles off Sandy Hook; on it there is a depth of from twenty-one to

diminishing. square miles of water surface, receiving from the west the waters of the Raritan river, which is seventy-four miles in length, passing through the red sandstone formation of New Jersey. The lower bay connects with the harbor proper at "the Narrows," a strait formed by the approximation of the

twenty-three feet of water, which has been gradually

shores of Staten and Long Islands. There is also another connection around the west ern shore of Staten Island, by the Staten Island Sound, which meets at Newark bay the united waters of the Passale and Hackensack rivers. The former is seventy miles in length, passing through the new red sandstone formation and having at one point a fail of seventy feet. The latter is forty miles long, passing through red sandstone and con-glomerate. Newark Bay is six miles long and onehalf male wide, connecting with the harbor by the Kill von Kull, a narrow strait. The principal affluent of the harbor is the Budson river, which rises in the mountainous regions of Hamilton and Essex counties of New York, and is 300 miles long passing through granitic and calcareous formations and alluvial deposits. It receives in its course the waters of numerous small streams, but its principal tributary is the Mohawk, a considerable river, which empties into it at Waterford, 150 miles from its month.

and alluvial deposits. It receives in its course the waters of numerous small streams, but its principal tributary is the Mohawk, a considerable river, which empties into it at Waterford, 150 miles from its mouth.

The Hudson is navigable for large ships a distance of 118 miles; for smaller vessels and steamers, 150 miles. It is connected with the great lakes by the Eric Canal at Albany and with Lake Champian and the St. Lawrence river by the Northern Canal.

The river divides at the north end of Manhattan Island, forming what is called Harlem river, which empties into the East river, a strait connecting the harbor with Long Island seand, and thus forming another outlet to the ocean.

The harbor contains twenty-four square miles of water surface.

From this description the natural elements which enter into the formation are seen. Nearly all of the affluents pass through recent geological formations, subject to constant disintegrations; hence the affluents pass through recent geological formations, subject to constant disintegrations; hence the amount of detrital matter which incessantly bought down to the harbor is enormous in its extent, requiring all the force and capacity of the tides and currents to preserve the navigable condition of the harbor, especially at the entrance.

For the purpose of instituting a comparison between the past and the present I have caused to be prepared to accompany this report two maps—one a copy of a map published in London in 1750, ebtained from the New York Historical Society; the other a map of a recent survey of the harbor under the direction of the Coast Survey Bureau.

The first of these exhibits the narror as it existed between the past and the present immediate of the melting of the survey and the result of the coast survey Bureau.

The dense forests which covered the area drained by these rivers protected the mountain springs from the indique of the sun, retarded the melting of the survey and the result of the capacity of the survey and piers, and in many places dense bl

hey are also increased by the sewerage of the cuty

being discharged directly into the river and the refuse matter thrown from wharves and vessels. Pits, shoals, eddies and counter currents have been created, rendering navigation difficult and filling up the spaces between the wharves. But the most important effect is feit at the entrance to the harbor, where the land has encrouched upon the chainet way three-lourits of a mile since the date of the survey to determine the position of the lightnose. This land forms during violent storms on the ceast, and in proportion as the quantity of tide water admitted into the bay at the flood is diminished, so does the force of the cob to remove the encreachment decrease.

This of itself is sufficient to show that the capacity of the harbor is contracting.

With regard to rivers nature acts by certain fixed laws, from which she never deviates; in accordance with these laws their beds are established and their channels excavated. Man cannot change them. All his efforts to do so have but produced modifications. The avils he attempts to remove reappear with greater force at another point. Any construction built in one place for invessing commercial facilities operates injuriously upon another portion of the river. Constructions which narrow the channel at one point must produce a corresponding increase in the depth of water and a greater velocity; as soon as the channel widens a fall in the water takes piace and the velocity dimmishes. The effect of the fall is feit at the bottom, where a hollow is formed and a corresponding shoal beyond it, and eddies are created where the specific gravity of the sedimentary matter, having overcome the force of the current, is deposited.

These effects are as unceasing as the cause which produces them. Not less important is the action of

corresponding shoal beyond it, and eddles are created where the specific gravity of the sedimentary matter, having overcome the force of the current, is deposited.

These effects are as unceasing as the cause which produces them. Not less important is the action of these obstructions upon the semi-diurnal tides. Twice a day, under the influence of the food tides, the waters of the harbor rise from five to seven feet, and press back the waters of the rivers which empty into it, and cause its effects to be felt more or less for a great portion of their length. After arriving at a maximum height the tides recede, and, aided by the increased velocity of the rivers, has the effect of scouring or washing out a large portion of the sediment which had been brought down and deposited during the previous six hours.

It is evident that anything that tends to diminish this effect must be seriously felt; that the filling up of land previously under water and the extension of long, solid piers into the river has the tendency to obstruct, and, if persisted in, eventually to destroy the action of the tides.

It is as evident as the fact that a solid body placed in a vessel full of water will displace an amount of water proportioned to its bulk.

I have dwelt thus particularly upon the subject of the harbor in the outset because I regard it as the key to the whole question. The importance of it cannot be overrated. Many important harbors have been irreparably injured by ignorance—a neglect of the important elements to which their existence was due.

Second—The nature and extent of the several branches of commercial traffic now using wharf facilities, and what is the present character of those constructions.

Map No. 3 exhibits the water front of the city of New York, with the pier and wharf constructions now used. Also the amount of made land and the lines established by act of Legislature, known as pier and bulkhead, are seen that an irregular bulkhead, which is composed of logs in many places in a state of decay and dilapidat

The remainder are the property of different individuals or companies.

HOW THE PIERS ARE OCCUPIED.

The accompanying exhibit shows that the North river side is largely occupied by the steamers connected with domestic commerce and passenger travel, by the shipping depois of the several lines of railway terminating on the opposite side of the river, by numerous ferries running to the New Jersey shore, and that a very large space is used for market purposes. The important lines of European steamers formerly occupying wharves on this side have been forced to go to the opposite shore of New Jersey for the want of room. On the East river side is located the canal trade, the various lines of saling vessels connected with foreign commerce, several domestic lines of steamers, and the bulk of the East India and West India commerce. A number of floating docks, for the repair of ships, are also on this side. In all cases and everywhere there is a general compinint of want of adequate accommodations.

The wharves piers and slips are required by too.

this side. In all cases and everywhere there is a general compisint of want of adequate accommodations.

The wharves, piers and slips are required by too many classes of business, none of which have sufficient room.

The warchouses along the water front and the adjoining streets correspond in their occupancy with the use of the piers.

The tendency of the same classes of business thus to occupy distinct localities is another element which is to be considered, since they all require room for expansion, and it is as impossible for two kinds of business to occupy the same space as for any two bodies of equal dimensions to occupy the same area.

Third—To estimate from such data as time and experience have supplied the elements of progress which are incidental to the city of New York by virtue of its geographical position, its inland communications and its present standpoint as the commercial metropolis of the country.

The bistory of the city of New York is an unexampled instance of a constant and rapid increase in population, wealth and material prosperity. It is in this respect a clear exponent of the progress of the whole country; consequently all of the elements which have marked the past, define the present and enter into the future of America are applicable in every sense to the city of New York and must be considered in any provisions which are designed to provide for the expansion of commercial facilities. Among these elements are the increase in general population, increase in immigration, increase in imports and exports, increase in value of real and personal property.

ESTIMATES OF POPULATION AND COMMERCE, In accordance with the rules of increase which

imports and exports, increase in value of real and personal property.

ESTIMATES OF POPULATION AND COMMERCE. In accordance with the rules of increase which statistics have established, it is estimated that the population of the United States, now 40,000,000, will, in the year 1900, be 100,000,000, and that the population of the city of New York, now 1,000,000, will at that time be 3,000,000. It appears also from statistics that the importations into this port have increased during the last ten years more than \$100,000,000, and the exports more than \$200,000,000, and the exports more than \$200,000,000 tons; in fact, that the tonnage has nearly doubled in ten years. There are upwards of 5,000 miles of rallway in the States of New York, New Jersey and Connecticut which have immediate termini in the city of New York. There was brought to New York by rall during the year last past 141,300,676 tons of freight and 25,312,533 passengers. The area made directly tributary to the city of New York by the Eric canal is \$00,000 square miles, while the completion of the three lines of railway to the Pacific Ocean will make tributary the entire Continent. Hence a plan which provides for the future commerce of this port should be limited only by the space that can possibly be occupied.

From the foregoing facts and statistics are derived. From the foregoing facts and statistics are derived

From the foregoing lacts and statistics are derived the following cenciusions:—

That any plan for the improvement of the commercial facilities of New York must be one which will cause the least displacement of water consistent with proper stability, and must afford the least possible obstruction to the free flow of the tides.

That the present constructions are entirely madequate to the wants of commerce, inferior in construction and of perishable materials and are positive obstructions to the tidal flow.

That there is not sufficient space, even with improved constructions in the localities now occupied by plers and wharves, for all the business which requires accommodations, and that certain changes in respect to location are absolutely necessary.

And that the new constructions should combine stability, capacity and the indictous use of materials, with economy and simplicity of design, applicable to every branch of commerce and marine transportation.

with economy and simplicity of design, applicable to every branch of commerce and marine transportation.

The plans therefore should provide:—First, for the widening of the exterior street to 150 feet, and the construction along the exterior line of a substantial stone sea wall in place of the present bulkhoad. Second, the construction at right angles to this wall of plers, extending to the pier line established by act of Legislature, said piers to be sixty feet in width and 200 feet apart; to consist of a stone pier head, properly constructed of hydraulic massonry, the full width of the pier. Between this pier head and the bulkhead pneumatic from piles to be sank at such distances as may be requisite for the support of iron griders which shall sustain the flooring of the pier, said piles to be filled with concrete. That over each pier as far as the pier head, there shall be constructed on iron supports a second nooring cevered with an arched roofing of corregated rich, the sides of which shall be enclosed with the same material, and provided with specious and suitable openings. The second flooring to be connected with an elevated railway extending along and over the entire line of bulkhead. Said railway to be of sufficient capacity to accommodate freight and passenger traffic to the fullest extent that may be required. Third—That during the construction of the bulkhead there shall be laid along the water front a low level sewer at a sufficient depth to secure the drainage of all the undrained portions of the city.

THE EXTERIOR STREET AND BULKHEAD.

It has long been a matter of serious detriment

and of sufficient capacity to receive the entire sewerage of the city.

It has long been a matter of serious detriment to commerce that South and West streets were so narrow that a constant stoppage of all traffic frequently occurs, and at all times transportation through those streets has been accomplished with much difficulty and great loss of time. The necessity for widening those streets and the substitution of stone for the decaying timbers, which now allow every tide to saturate the ground behind, and at high tides to fill all the cellars with water, is apparent. It is proposed to construct a substantial stone bulkhead of hydranite masonry, either in granite or limestone, with granite coping, the specifications for which accompany this report.

The Firmsan.

It is proposed to construct the pierhead of stone, since it is at this point that the greatest stability is required. The shock of a vessel coming into the slip at an accelerated rate of speed will be received by the pierhead. It also receives and breaks the force of ice and all other floating matter borne down by a rapid current.

should be of the most substantial character po-it is to be laid either on plies, filled between eement, or upon a cement foundation laid upo-bed of the sfream, after being excavated to

bed of the sfream, after being excavated to hard pan.

Between the pierhead and builthead it is proposed to sink hollow iron piles by the pueumatic process, constructed of cylindrical sections, forced down to an unyielding foundation and filled with concrete.

The use of iron columns for such purposes has been extensively practised in Europe with complete success. They have the peculiar merit of giving the greatest amount of strength with the least amount of water dispingement. Their form secures an uninterrupted flow of tides and currents. They are economical, possess stability and durability.

Stone piers, with arches soringing from them, would have almost the same effect as solid constructions, since the soffits of the arches would necessarily be below low water, unless the piers were made very close together, which in the aggregate would take up an enormous amount of water.

The piles are to be in parallel rows and at the greatest disfance apart compatible with the strength of the tron girders which receive the flooring. The piles to be thoroughly braced and counter braced, and in every way to be made firm and substantial.

Iron columns resting on the piers will support a second flooring and railway track, with an arched trus roof over covered with corrugated from Broad and frequent openings arranged for the free use of derricks are at the sides of the structure; and the railway is to be connected by means of turn tables, with a longitudinal railway extending over and along the entire builkhead.

The Diethead and the entire pier are sheeted with hard wood and the floorings are of the same material.

The hornest and the entire pier are sheeted with hard wood and the floorings are of the same material.

The longitudinal railway along the bulkhead line furnishes a necessary means of facilitating commercial intercourse between the piers and throughout the entire system. It also provides a necessity which has been feit for very many years, and becomes more and more apparent. The peculiarly insulated position of the day clearly limits its possible extension in every direction excepting to the north, and its bopography defines positively all its lines of communication, while its geological formation almost precludes the adoption of any plan of speedy locomotion, however successful, which may have been executed in any of the other large capitals of the world. In the city of London, for instance, there are ten main lines of railway converging towards the centre of the metropolis—one passing directly through it. Some of them are elevated and one is underground. But London lies in a basin, and its geological formation is a vast clay deposit, while New York lies on a ridge of upturned primitive rock. London diverges from a centre, while New York catends in a lateral direction. Hence the great dimentity in carrying out in New York a system of communication adapted to Lendon. The same comparison will apply to Paris. Any line of communication is found along which a rapid transit can be established which will not take away or destroy any available property; which will not interfere with other means of locomotion or with any commercial facilities, any which can be operated with an ever-reliable and postive power capable of removing an unlimited number of passengers at any moment and at all flours, while offering no engineering obstacles to its construction.

The builknesd being elevated just dve feet above high-water mark escabilishes the grade of the rail-

moment and at all hours, while offering no engineering obstacles to its construction.

The bulkhead being elevated just due feet above high-water mark establishes the grade of the rail-way at mearly a perfect level. The most important question in all railway construction is thus admirably met. The track being elevated to a sufficient height to admit of the necessary buildings used for shipping, ferry or commercial purposes along the pier, the suly possible interference with property or business is obviated. At the same time, by a simple and obvious combination of the railway and all such creetions, a uniformity of design and an architectural completeness, most desirable in itself, wit be secured.

There is no limit to the means of transporting passengers, and hundreds of thousands can daily be conveyed with a speed and comfort uterly unknown.

It is solvected that the line of the read in the conventions of the product of the conventions of the conveyed with a speed and comfort uterly unknown.

There is no timit to the means of transporting passengers, and hundreds of thousands can daily be conveyed with a speed and comfort utterly unknown.

If it is objected that the line of the road is at a distance from the centre of the island, and therefore inconvenient, let if be remembered that the present location of the greater proportion of the population of the city is due to the facilities of commanication amorded by the street railways, and therefore that the bulk of the population would evenually be distributed in proximity to this line.

A very important feature in connection with the general system proposed, here develops itself. There is a necessity for the use of a large amount of power for the several purposes of locomotion, for the loading and unloading of vessels and for the discharge of the sewerage matter from the low level sewer. It is perfectly feasible to cause the same power to be adapted to all these purposes at once. Whether that power be steam, pneumatic or hydraulic, it can be readily arranged so as to discharge all these separate functions at the same time, and thereby establish an economical use of power the advantage of which cannot be overestimated.

At the first giance this proposed construction may not seem germane to the duties of the Beparament of Docks, yet it forms a part and parcet of the improvement of the water front and is inseparably connected with it. The ruture health and prosperity of New York require this construction. It may be assumed that to defective drainage and sewerage may be attributed most of the sanitary evils from which the city of New York sequers. We find that of the 12,000 acres comprising the superficial area of the city, representing 150,000 building lots, one-firth of that amount, or 39,000 building lots, one-firth of that amount, or 39,000 building lots, one-firth of the sanitary evils from which the city of New York setters. We find that of the 12,000 acres comprising the superficial area of the city, representing 150,000 for possessing a total value

the topography and hydrography of New York the particular localities were pointed out the restriction of the particular localities were pointed out the soil from springs and other sources in the soil from springs and other sources are company of hydrogenesses. Open the map accompany of hydrogenesses, together with the elevations indicating of sewers, together with the elevations indicating of sewers, inside grades of the streets are represented, sowing that from the anti-climal axis of the island the sewerage descends to the North and East rivers, being conveyed directly into those rivers polluting the waters, tainting the air, creating deposits of soild matter at the wharves and plers, and in every way a fruitful source of the very evils which their construction was intended to remedy, not the least of which is the foul air, which at low tide and in certain directions of the wind, is forced into the dwellings and more especially toli in the chambers of which is the foul air, which at low tide and in certain directions of the wind, is forced into the wind of the sick. The remedy for all this would be found to the construction along the extending the property of the construction along the extending maternats to lands now lying waste, in close proximity to the city. Thus one great and positive good would be accomplished, the benefit of which to the commercial interests alone would be immense, while, as a sanitary measure and more particularly as a means of thorough drainage, the results will be incalculable.

These sewers, lying below the lowest substratum of water deposits, would effectually remove all traces of molisture from those sections which have been provided to the conference of the confer

by a rapid current.

Hence it is deemed necessary that the pierhead.

If will be seen that these plans will reduce the

there are a great many reasons why a change should be made.

This market was established at a period when what is now known as "up town" did not exist even in the imagination of the most sanguine. We find it now located not only far below the centre of population, but in the midst of a commerce which is absoliately stiffed by its presence, as surely as the anaconda stifies the victims which it embraces in its folds. It has outgrown and overrun its limits, without adding in the least to its accommodations, erected upon the narrow streets of the olden town, upon muddy ground, continually saturated with the refluxing tides.

No effort of science or skill can ever make it what it ought to be, and even were it in other respects unexceptionable, it must, from the circumstances of the case, become a source of constant increasing injury.

But the establishment of up town ferries removes the only argument for its being suffered to remain where it is, and the space now occupied by it is absolutely required for the steamships which have been driven to the New Jersey shore for necessary recommediations.

The plan also provides for the change of the locality of the canal trade. I am aware that this suggestion is one which requires the most profound consideration.

The Corn Exchange, which is the centre of the trade incidental to canal transportation, is located on the southerly end of the island.

All the business in grain and produce is conducted in its immediate vicinity, and the great bulk of the canal boats acrive, or seek to arrive, in that neighborhood; yet how utterly inadequate the space allotted for that purpose is, and has been from the very opening of the Eric canal, no one knows better than the merchants whose business is connected with it.

very opening of the Eric canal, no one knows better than the merchants whose business is connected with it.

The Eric canal, to which in a large degree the prosperity of the city of New York is due, was completed in 1827. The object of its construction was to connect the great lakes with the ocean, and the Hudson river in one sense ferms a portion of the canal system, with this cuty as the terminus. Hence there should have been provided at the oviset at this point, as a part of the grand scheme of inland navigation, suitable and commodious basins and elevators for the exclusive use of the canal boats and as a depot of the productions arriving by the canals. The failure to do so has caused an incalculable loss of time and money in the great dimenty which has attended the unloading and loading of vessels. In fact the accommodations afforded to this branch of commerce are utterly madequate. A protest on this subject by those interested in it exhibits the following statements:—

All that the Legislature has ever done for the special protection of this stunedous branch of commerce in this portection of this stunedous branch of commerce in this portection of this stunedous branch of commerce in this profession.

All that the Legislature has ever done for the special pro-tection of this stupendous branch of commerce in this port has been to set apart the waters of the slips between the east side of pier No. 2 and the east side of pier No. 9 East river for the exclusive use of canal boats and barges quring certain portions of the war.

river for the exclusive use of canal boats and barges quring certain portions of the year.

And what a miserable pittance of the entire harbor is ap-propriated to this use!

New York alone has 183 piers and about seventeen miles of water front, yet the canal interest, which embraces more than half the commerce of the port, is only permitted to use seven of these piers, and less than 7,380 (set of this water

front. The "canal interest" is the only one which pays an revenue to the State. The canal boats to which I have referred pay into the state Treasury, by way of tolls, abou \$5,000,000 annually. Not another class of vessels pays a dollar.

\$6,000,000 annually. Not another class of vessels pays a dollar.

An interest so vast and which so nearly affects the entire people of the State should receive special protection and be relieved from every burden which, by increasing the expense of bringing the necessities of life to market, necessarily imposes a tax upon the people. It has never received that protection which it requires, and it is subjected to burdens from which it ought to be relieved.

The result is that the space new actually appropriated to canal boats only affords berths for thirty-four boats; yet the number of boats daily requiring accommodation averages 300, while the number of the nearbest 600 per day.

Canal boats cannot be accommodated with safety in the same slap with large vessels. They are in danger of being crushed or in juried by coming in contact with them. Besides, the iength of time required to load and unioned large vessels would practically exclude canal boats in the same slip from any use of the piers.

The commerce of the canals is special in its nature and requires a common centre for the tradiaction of the business connected with it.

If the entire wharfage of the East river side as for

The commerce of the cansil is special in its address of requires a common centre for the transaction of the bosiness connected with it.

If the entire wharfage of the East river side as far as Cortears Hook were devoted to the canal trade it would not be too much.

It is obvious, therefore, that some distinct, comprehensive and ample provision should be made for the exclusive use of the canal commerce.

Many circumstances combine to indicate the line of the Harlem river and its vicinity as the most natural and most suitable place for the concentration of this trade.

A canal 200 feet wide and twenty feet deep, opening into extens, ve basins constructed from the low marsh lands adjoining this river, where an area of more than 200 acres can be thus converted into itidal reservoirs, so much needed even now, and more necessary as time advances, to maintain the original status of the barbor; a series of parallel sips and wharves for the lumber trade, a series of freproof elevators to receive the grain, ample dock and wharf facilities at the easterly end for ships and steamers to receive their cargoes of cereals for Europe—all these can be secured at this point and at no other. All these are required now, and will be demanded more hereafter. Rapid communication by the railway brings this spot within teaminutes of the extreme lower end of the island. The long detour around the island is avoided. All the produce for the Eastern market is conveyed directly to the Sound. The space now occupied will be available for shipping purposes. A great relief will be aforded to navigation on the East river. In short, it is believed that there is no reason that

All the produce for the Eastern market is conveyed directly to the Sound. The space now occupied will be available for shipping purposes. A great relief will be are already on the East river. In short, it is believed that there is no reason that can be advanced for retaining this trade in its present locality which cannot be met by a stronger reason for the change.

The space on the East river in the vicinity of 106th and 110th streets is another locality which can be readily and advantageously converted into a basin, which can be extended over the whole area now overflowed at that point by the tides as far as the lime of Fourth avenue. This basin will, if constructed, he a great advantage to that locality, since it would otherwise be filled in, and a saturated soil thus formed would be found a source of pestilence and disease. In regard to the provisions required for the different classes of trade, it is believed that the general plan of construction submitted is applicable, with simple medifications, to all branches of commerce.

The market piers should be nearer together, also the grain and lumber piers; elevators in many instances would replace the proposed superstructures for grain; but in all other instances a double-hoored pier, roofed in as proposed, would double the present wharf facilities, while the whole structure, including the railway, can be closed with iron gates, and thus afford perfect security against depredations now carried on to such a great extent, and at such heavy losses to owners of merchandis.

The plans submitted are the result of several years study of the subject, and are the same in principle as those submitted by me fifteen years ago to the city authorities. Also described in my report on this subject published by the city of Boston.

EGBERT L. VIELE.

REAL ESTATE TRANSFERS. New York City.

15,000 ## Mings County.

Adelphi at, w a. 611.10 ft s of Park av. 25x100 ... 2

Bond st, w a. 61 ft n of Livingston et. 20x33 ... 1

Butler st, ns. 405.5 ft w of 6th av. 100x100 ... 20

Warran at, a s. 256.5 ft w of 6th av. 100x100 ... 20

Floyd at, ns. 407.6 ft e of Tompkins av. 18x100 ... 20

Grace court. s s. 276 ft w of 6th av. 40x100 ... 100x100 ... 100x Klugs County. 1,750 20,500 2,375 2,375 300 3,000 35,000 3,000 1,500 1,700 1,700 1,700 1,800 2,800 3,800 1,700 1,800 1, 100 av plank road, se, 34.10 ft e of Megnolia st. 28x 375 38.32572.

Vernon av, se, 400 ft w of Lottet, 50x150. 1,500 Essex County, N. J. Prince at, e.s., 177 ft n of Waverley pl. 75x200. 4,800
Av A, w.s., adj Patterson pl. 25.2526. 500
Prince at, e.s., 177 ft n of Waverley pl. 75x200. 4,800
Av A, w.s., adj Patterson pl. 25.2526. 500
Prince at, adjitung J Loyd's property, 50x115. 2 7,500
Warst Orantell.
Eagle ridge, J Reed to D Green, 617-100 acres. 8,000
Av B. w. 100 ft s of 15th 15.50x100. 1,200
Av A and Maple at, s w corner, 102x154 5,500
Lot 87, block 34, Herring's map, 20x100. 240
Lot No 4, block D, Fisher's map, 20x100. 560

Westchester County.